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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/623,681	09/07/2000	David Fisher	540-231	6218

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EXAMINER

BRYANT, DAVID P

ART UNIT

PAPER NUMBER

3726

DATE MAILED: 02/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/623,681

Applicant(s)

FISHER ET AL.

Examiner

David P. Bryant

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 November 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

In view of the Appeal Brief filed on November 27, 2002, PROSECUTION IS HEREBY REOPENED. A new rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 and 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art (AAPA) in view of Thomas (U.S. Patent No. 3,609,116).

AAPA is found on pages 1-2 of the specification, and is reproduced below, with the portions thereof which correspond to specific claim limitations being identified in parentheses:

A method of producing structures to high accuracy requirements is known, and can be used with sub-structures (“providing a sub-structure,” claim 1) made of either metal or CFRP. In this method, the surfaces of sub-structure to which panels are to be attached are coated with a filled, two component liquid adhesive material, with aluminum added to it (“positioning shim material on at least part of the sub-structure,” claim 1). The liquid adhesive is cured on the sub-structure (“curing the shim material on the sub-structure,” claim 1), and is then machined to a desired thickness (“machining the cured shim material to a desired thickness,” claim 1) before the panels or skins are fixed to the sub-structure (“assembling an outer layer with the sub-structure such that the machined shim material lies substantially between the outer layer and the sub-structure,” claim 1). The cured adhesive may be machined to different thicknesses at different locations on the sub-structure so that, when the panels or skins are fixed to it there is substantially no step between adjacent panels or skins (“wherein the shim material is machined to different thicknesses at different locations on the sub-structure so that, when assembled to the sub-structure, the outer layer parts together conform, within pre-determined tolerances, to a pre-determined profile,” claim 6).

It is noted that claim 6 is dependent on claim 5, which recites “wherein the outer layer comprises at least two parts and the thickness of each outer layer part is measured prior to machining the shim material.” Applicant’s Figure 2 (denoted as PRIOR ART) depicts an outer layer comprising at least two parts 4 and 8. Although there is no explicit disclosure that “the thickness of each outer layer part is measured prior to machining the shim material,” it is considered inherently

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obvious that one of ordinary skill in the art would need to measure the thicknesses of each of the outer layer parts to make an exact determination of how much shim material needs to be machined away “so that, when the panels are fixed to it there is substantially no step between adjacent panels or skins” (AAPA, page 2, lines 5-7, and reproduced above). The only other alternative, a “trial-and-error” type of machining (e.g. rough positioning of the parts, then removal of the parts, then machining, then rough positioning again, then removal of the parts, then re-machining, etc., until the parts are properly fit) would not be a viable option in the aircraft industry, which requires very close tolerances.

Therefore, regarding independent **claim 1**, AAPA fails to disclose only the limitation “said shim material comprising one of a film and sheet of preformed shim material.”

Thomas teaches a machinable, cured-in-place shim material useful for aircraft structures. The most descriptive disclosure of the shim material is outlined in column 7, as set forth below:

lines 22-26: the shim material is intended for use “particularly in the aircraft industry” and provides “good adhesion to aluminum, steel or titanium in lap joints”

line 27: the shim material may be applied “up to 0.125 inch thick” (note that 0.125 inch = 3.175 mm)

lines 28-29: the shim material “can be cured at room temperature (75° F) or at elevated temperatures”

lines 33-38: uncured, “the shim material is similar to caulking compound and...may be applied prior to the mating of the parts” and “[t]he shim material

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may also be pressed or calendered into strips and applied in strip form prior to mating of the parts” (emphasis added)

lines 39-43: the shim material, “when fully cured in place...may be considered a structural member...and may be machined”

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted the shim material of Thomas, preformed into strips and applied in strip form prior to mating of the parts, for the shim material of AAPA, to facilitate handling thereof and to simplify application of the shim material to the sub-structure.

As noted above, AAPA explicitly or inherently teaches the limitations recited in **claims 5 and 6**, and the shim material of Thomas meets the limitations recited in dependent **claims 2, 8, and 9**. As for the limitations recited in **claims 10-12**, Thomas discloses in column 2, lines 10-14, that the shim material may be positioned “in either horizontal, vertical or overhead positions without excess flow.”

AAPA and/or Thomas fail to explicitly teach the limitations recited in dependent **claims 3 and 4**, i.e. curing the shim material by exposure to ultra violet light or radio frequency radiation. However, the manner in which the shim material is cured is deemed to have been an obvious matter of choice, since applicant has not disclosed that the particular curing process solves any stated problem, and it appears that a simple room temperature or elevated temperature cure of the type taught by Thomas would provide equivalent results. Additionally/alternatively, the examiner takes Official Notice that room temperature curing, elevated temperature curing, and curing by exposure to ultraviolet light or radio frequency radiation are notoriously old and well-known in the art, and the selection between either method is deemed to have been an

obvious matter of choice. (Further, it is noted that applicant's only disclosure of these latter two curing methods is found on page 3, lines 26-27: "Curing may be effected by exposure of the shim material to ultra violet light or radio frequency radiation." No importance or criticality to these curing methods is stressed, which lends credence to the examiner's contention that these curing methods are well known, and the selection of either is obvious and well within the level of ordinary skill in the art.)

Response to Arguments

Applicant's arguments with respect to claims 1-6 and 8-12 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment (filed May 20, 2002, Paper No. 7) necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Telephone inquiries regarding the status of applications or other general questions, by persons entitled to the information, should be directed to the group clerical personnel. In as much as the official records and applications are located in the clerical section of the examining groups, the clerical personnel can readily provide status information. M.P.E.P. 203.08. The Group clerical receptionist number is (703) 308-1148.

If in receiving this Office Action it is apparent to applicant that certain documents are missing, e.g., copies of references cited, form PTO-1449, form PTO-892, etc., requests for copies of such papers or other general questions should be directed to Tech Center 3700 Customer Service at (703) 306-5648, or fax (703) 872-9301 or by email to CustomerService3700@uspto.gov.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **David Bryant** whose telephone number is **(703) 308-1859**. Draft amendments or proposed changes to the application may be faxed directly to the examiner at any time via RightFAX at (703) 746-4213. The examiner can normally be reached on **Mondays-Thursdays from 6:30 AM to 5:00 PM**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Greg Vidovich can be reached on 703-308-1513. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9302 for regular communications and 703-872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1148.

Other helpful telephone numbers are listed for applicant's benefit.

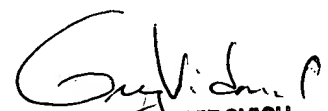
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If the information desired is not provided above, or a number has been changed, please call the general information help line below.

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David P. Bryant
Primary Examiner
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